TRAFFIC CONTROL STANDARD NO. 8
MAST ARM AND TWIN MAST ARM STEEL POLES
REVISED April 19, 2005

The poles, including transformer base, shall be approximately 16’ to 17’ high. The height of the arm(s) at the tip shall be a minimum 20’/ maximum 21’ to the bottom of the transformer base after the deflection from the loaded weight of the arm. The length of the arm(s) will be specified on order. Mast arm shall slip fit to shaft. See **Figure 1** for more mast arm specifications.

A hand hole shall be provided at the union of the arm and pole shaft to provide access into wire way. Bosses in the mast arm shall be 1-½” rigid conduit thread and set at 45° from the horizontal (downward rotation at center of boss, 0° toward arm tip). Bosses shall be located at a horizontal distance of 10' apart, with the first located 16" from the tip of arm. The number of bosses required is listed in the following table:

ARM LENGTH	NO. BOSSES	SHAFT DIAMETER (MAX)	SHAFT BASE PLATE BOLT CIRCLE (MAX)
10' - 20'	2	10"	14-1/2"
25' - 30'	3	12"	15"
35' - 50'	4	13"	16"

Bosses shall have galvanized plugs installed to full-thread depth prior to shipment from the manufacturer. These plugs shall be 1-½” rigid conduit thread.

A hanger plate and horizontal boss shall be at the tip of the arm. The arm shall have an upsweep design. The traffic support pole shall be designed to be simultaneously loaded, at each boss, with a signal head. Each signal head shall have a designed weight of 100 pounds, have a projected area of 11 square feet, and be subject to a sustained wind velocity of **V** = 100 MPH. The design shall meet the requirements of the latest edition of AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaries, and Traffic Signals.

The pole shaft base is to have an approximate diameter as listed above and shall be bolt coupled to the transformer base utilizing four (4) 1-½” x 6NC threaded bolts conforming to the specifications as shown in **Figure 2**. Pole shaft shall have a 1” and a 3” boss centered on a horizontal line 6” from the base. When facing the bosses, the 1” boss shall be a maximum of 35˚ to the right of the 3” boss.

The transformer base to be approximately 20" high and rotate 360˚. The top of the transformer base is to have four (4) slots approximately 1-½” X 2-½” in size for bolting the pole to transformer base.

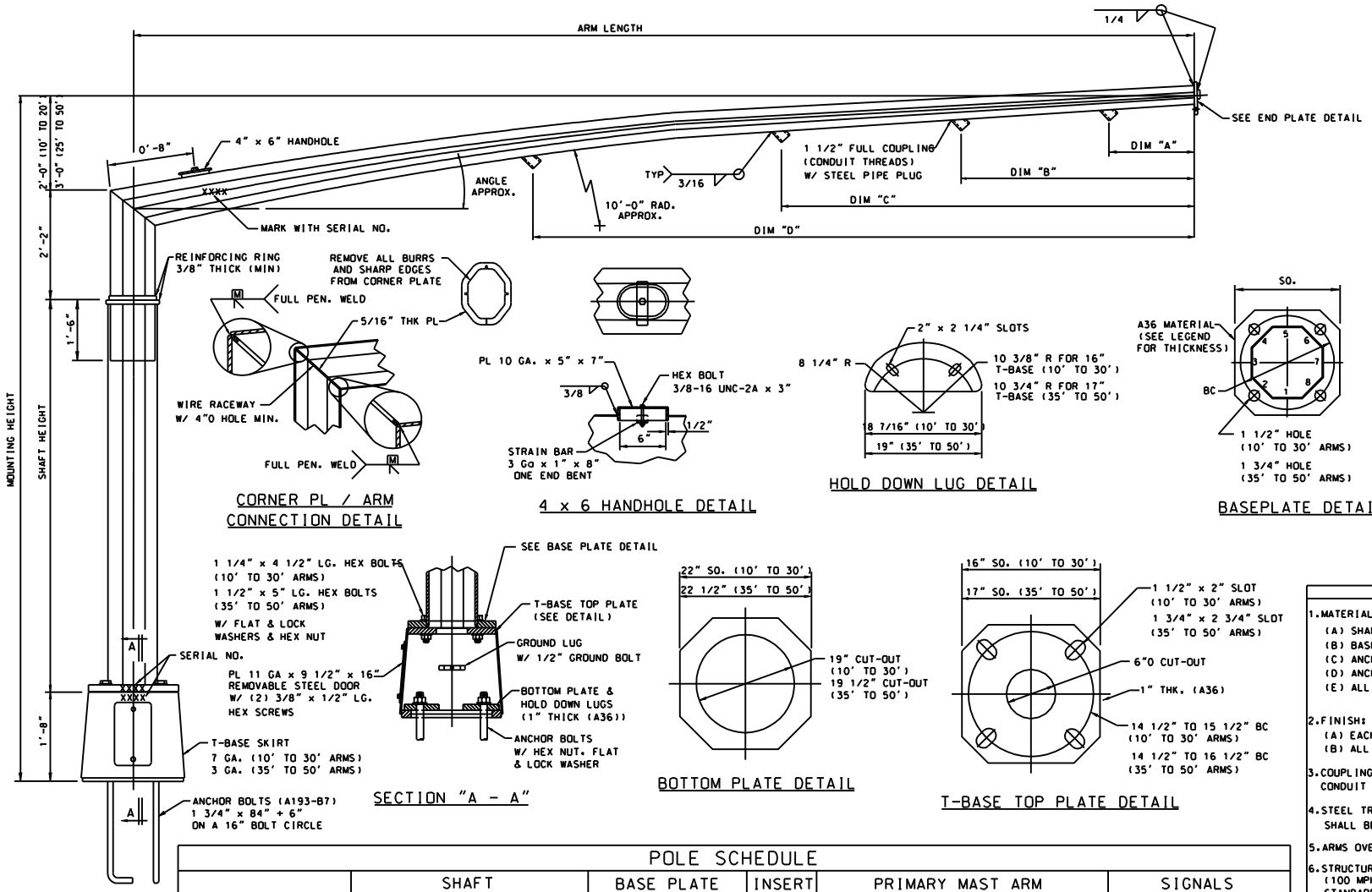
A removable panel shall be provided on the side of the transformer base for access into base. A ½" 13NC threaded grounding nut shall be provided on the sidewall to the left of the panel. A grounding lug shall also be provided with each pole (Fargo GC202 or approved equal). The bottom of the transformer base shall be designed to fit a 16" diameter bolt pattern utilizing four (4) 1-¾" 5NC threaded bolts supplied with each pole. These bolts shall conform to the specifications as shown in **Figure 3**.

The pole shaft and mast arm(s) shall have a suitable wire way throughout their length.

The pole shaft, mast arm(s), and transformer base shall have the manufacturer's name including the primary mast arm length and clamp-on mast arm length respectively. (Example LADOTD 30/20).

All pole hardware shall be packaged together on a per pole basis.

All material shall conform to applicable subsections of Section 1013 in the Louisiana Standards Specifications For Roads and Bridges. The vendor shall follow the instructions directed to the contractor. An additional anchor bolt shall be provided for testing each source of raw material used to make the anchor bolts.



CORNER PL / ARM CONNECTION DETAIL

4 x 6 HANDHOLE DETAIL

HOLD DOWN LUG DETAIL

BASEPLATE DETAIL

END PLATE DETAIL

SLIP DETAIL

FOR ARMS OVER 40'-0" ONLY.

SECTION "A - A"

BOTTOM PLATE DETAIL

T-BASE TOP PLATE DETAIL

POLE SCHEDULE

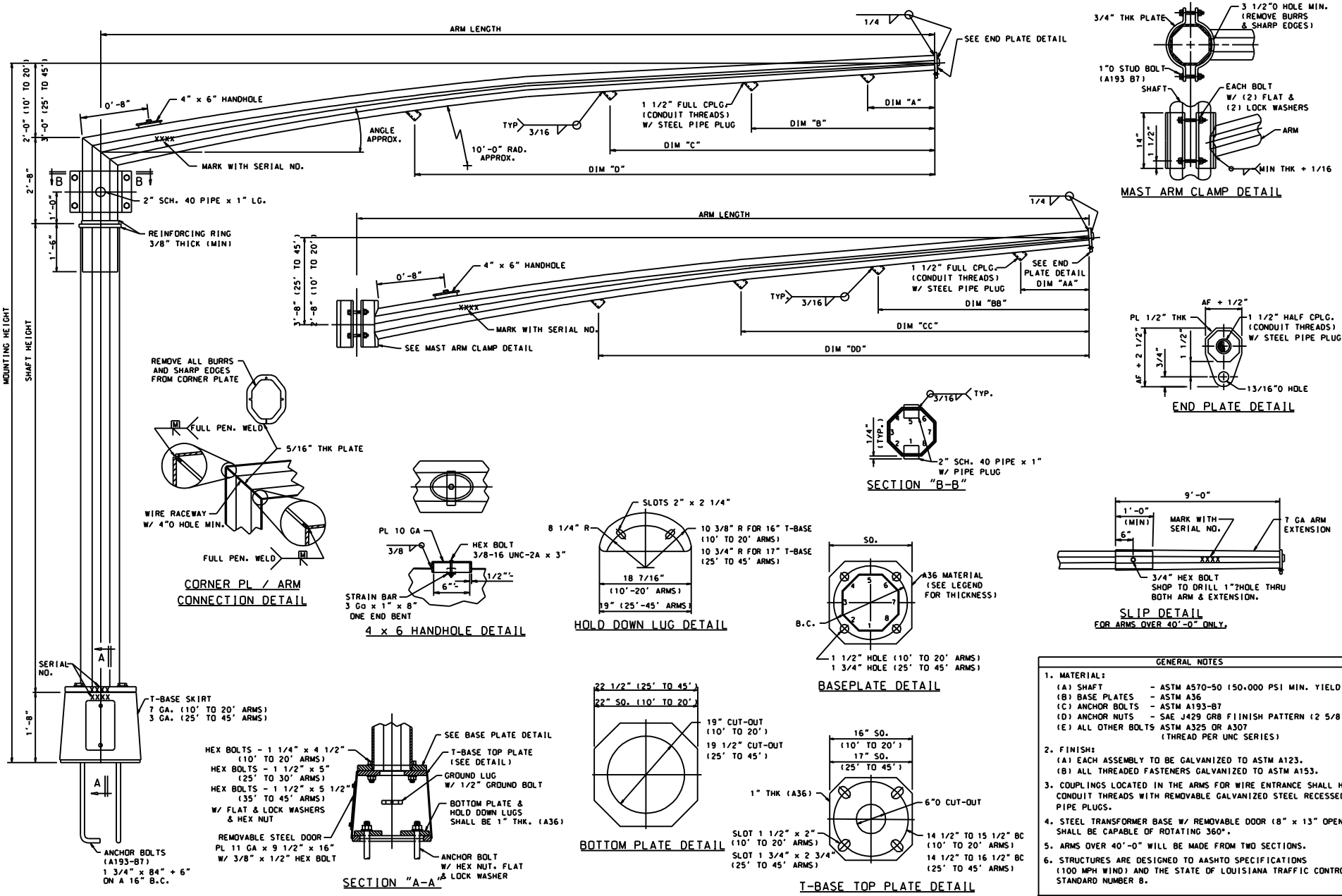
STOCK NO.	SHAFT					BASE PLATE			INSERT	PRIMARY MAST ARM						SIGNALS			
	MOUNTING HEIGHT	SHAFT HEIGHT	AF BASE	AF TOP	THICK	THICK	SQUARE	B.C.	THICK	ARM LENGTH	AF BASE	AF END	THICK	SECTION LENGTH	ANGLE APPROX.	DIM "A"	DIM "B"	DIM "C"	DIM "D"
	20'-0"	14'-2"	7.00"	7.00"	7 GA	1.25"	16.00"	14.50"	7 GA	10'-0"	6.500"	4.000"	7 GA	10'-0"	21.80°	1'-4"	--	--	--
	20'-0"	14'-2"	8.00"	8.00"	7 GA	1.25"	16.00"	14.50"	7 GA	15'-0"	7.500"	4.000"	7 GA	15'-0"	15.00°	1'-4"	11'-4"	--	--
14-12-1265	20'-0"	14'-2"	9.00"	9.00"	7 GA	1.25"	16.00"	14.50"	7 GA	20'-0"	8.500"	4.000"	7 GA	20'-0"	11.30°	1'-4"	11'-4"	--	--
14-12-1661	21'-0"	14'-2"	11.00"	11.00"	7 GA	1.25"	16.00"	15.00"	7 GA	25'-0"	10.375"	4.000"	7 GA	25'-0"	13.50°	1'-4"	11'-4"	21'-4"	--
14-12-1707	21'-0"	14'-2"	10.50"	10.50"	3 GA	1.25"	16.00"	15.00"	7 GA	30'-0"	9.750"	4.000"	7 GA	30'-0"	11.30°	1'-4"	11'-4"	21'-4"	--
14-12-1712	21'-0"	14'-2"	12.00"	12.00"	3 GA	1.50"	17.00"	16.00"	3 GA	35'-0"	11.250"	4.000"	7 GA	35'-0"	9.75°	1'-4"	11'-4"	21'-4"	31'-4"
14-12-1715	21'-0"	14'-2"	11.50"	11.50"	0 GA	1.50"	17.00"	16.00"	0 GA	40'-0"	10.625"	4.500"	3 GA	40'-0"	8.50°	1'-4"	11'-4"	21'-4"	31'-4"
14-12-1718	21'-0"	14'-2"	12.50"	12.50"	0 GA	1.50"	17.00"	16.50"	0 GA	45'-0"	11.625"	4.958"	3 GA	37'-0"	7.50°	1'-4"	11'-4"	21'-4"	31'-4"
											5.622"	4.000"	7 GA	9'-0"					
14-12-1720	21'-0"	14'-2"	12.00"	12.00"	.375	1.75"	17.00"	16.00"	0 GA	50'-0"	11.000"	6.543"	0 GA	32'-0"	7.00°	1'-4"	11'-4"	21'-4"	31'-4"
											7.286"	4.500"	3 GA	20'-0"					

GENERAL NOTES

1. MATERIAL:
   - (A) SHAFT - ASTM A570-50 (50,000 PSI MIN. YIELD)
   - (B) BASE PLATES - ASTM A36
   - (C) ANCHOR BOLTS - ASTM A193-B7
   - (D) ANCHOR NUTS - SAE J429 GR8 FINISH PATTERN (2⅝"AF)
   - (E) ALL OTHER BOLTS - ASTM A325 OR A307 (THREAD PER UNC SERIES)
2. FINISH:
   - (A) EACH ASSEMBLY TO BE GALVANIZED TO ASTM A123.
   - (B) ALL THREADED FASTENERS GALVANIZED TO ASTM A153.
3. COUPLINGS LOCATED IN THE ARMS FOR WIRE ENTRANCE SHALL HAVE CONDUIT THREADS REMOVABLE GALV. STEEL RECESSED PIPE PLUGS.
4. STEEL TRANSFORMER BASE W/ REMOVABLE DOOR (8"x13" OPENING) SHALL BE CAPABLE OF ROTATING 360°.
5. ARMS OVER 40'-0" WILL BE MADE FROM TWO SECTIONS.
6. STRUCTURES ARE DESIGNED TO AASHTO SPECIFICATIONS (100 MPH WIND) AND THE STATE OF LOUISANA TRAFFIC CONTROL STANDARD NUMBER 8.

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
TRAFFIC CONTROL STANDARD NO. 8
SINGLE MAST ARM FIGURE 1
REVISED 4/19/05

DATE PLOTTED 11:4C



GENERAL NOTES

1. MATERIAL:
   (A) SHAFT - ASTM A570-50 (50,000 PSI MIN. YIELD)
   (B) BASE PLATES - ASTM A36
   (C) ANCHOR BOLTS - ASTM A193-B7
   (D) ANCHOR NUTS - SAE J429 GR8 FINISH PATTERN (2 5/8" AF)
   (E) ALL OTHER BOLTS ASTM A325 OR A307 (THREAD PER UNC SERIES)
2. FINISH:
   (A) EACH ASSEMBLY TO BE GALVANIZED TO ASTM A123.
   (B) ALL THREADED FASTENERS GALVANIZED TO ASTM A153.
3. COUPLINGS LOCATED IN THE ARMS FOR WIRE ENTRANCE SHALL HAVE CONDUIT THREADS WITH REMOVABLE GALVANIZED STEEL RECESSED PIPE PLUGS.
4. STEEL TRANSFORMER BASE W/ REMOVABLE DOOR (8" x 13" OPENING) SHALL BE CAPABLE OF ROTATING 360°.
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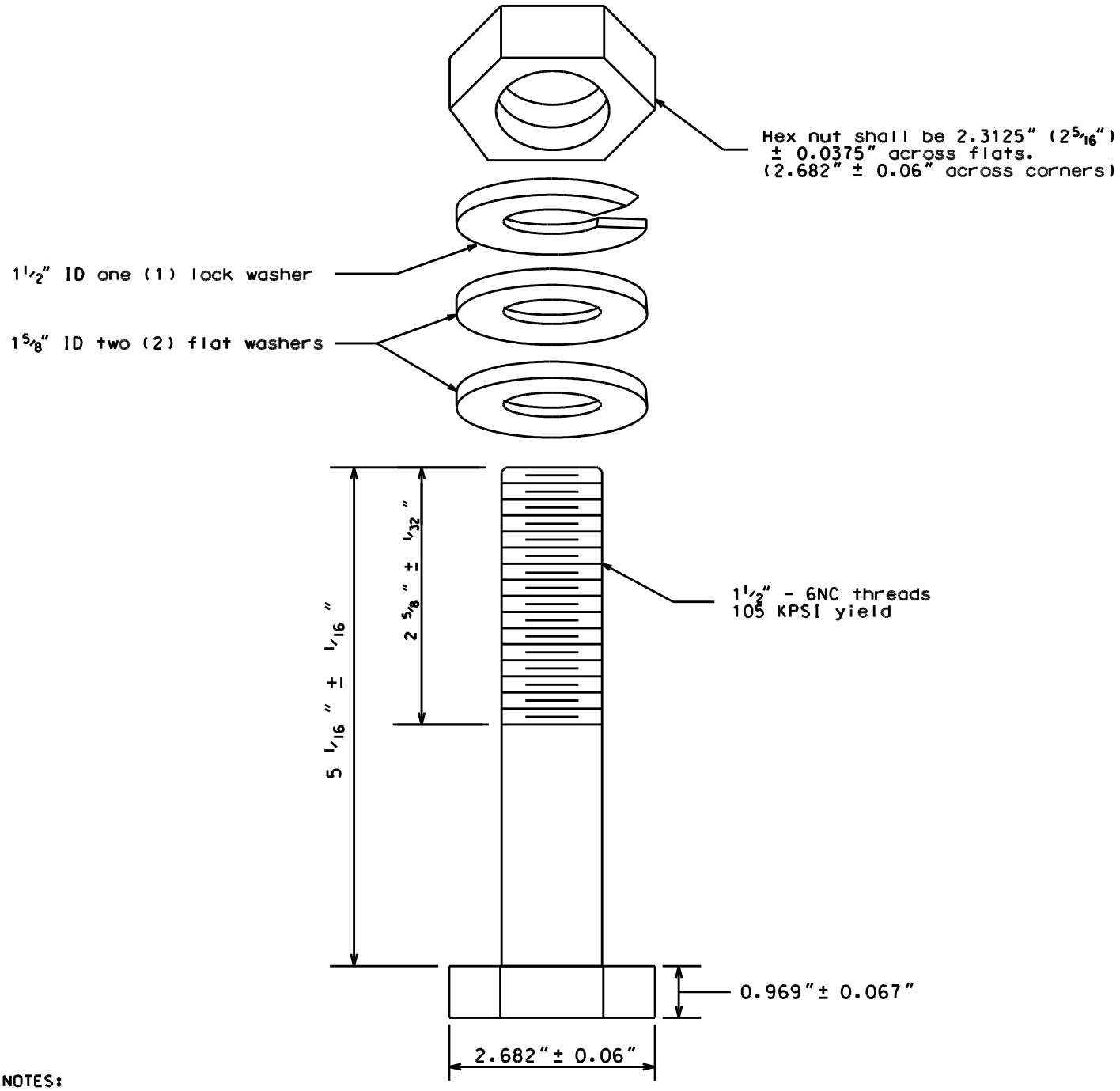
ITEM NO.	QTY	SERIAL NO.	SHAFT					BASE PLATE			INSERT	PRIMARY MAST ARM					CLAMP-ON MAST ARM						SIGNALS							
			MOUNTING HEIGHT	SHAFT HEIGHT	BASE AF	TOP AF	THICK	THICK (IN)	SQUARE (IN)	B.C. (IN)	THICK	ARM LENGTH	AF BASE	AF END	THICK	ANGLE APPROX.	ARM LENGTH	AF BASE	AF END	THICK	ANGLE APPROX.	CLAMP SIZE	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "AA"	DIM "BB"	DIM "CC"	DIM "DD"
LA-10/10	-	-	20'-0"	13'-8"	8.75"	8.75"	7 GA	1.25"	16.00"	14.50"	10 GA	10'-0"	8.25"	4.00"	7 GA	21.8°	10'-0"	5.25"	4.00"	7 GA	28°	8"	1'-4"	-	-	-	1'-4"	-	-	-
LA-15/15	-	-	20'-0"	13'-8"	8.50"	8.50"	7 GA	1.25"	16.00"	14.50"	10 GA	15'-0"	7.88"	4.00"	7 GA	15.0°	15'-0"	5.75"	4.00"	7 GA	19.5°	8"	1'-4"	11'-4"	-	-	1'-4"	11'-4"	-	-
LA-20/20	-	-	20'-0"	13'-8"	9.25"	9.25"	7 GA	1.25"	16.00"	14.50"	10 GA	20'-0"	8.63"	4.00"	7 GA	11.3°	20'-0"	7.25"	4.00"	7 GA	15°	9"	1'-4"	11'-4"	-	-	1'-4"	11'-4"	-	-
LA-25/25	-	-	21'-0"	13'-8"	11.50"	11.50"	3 GA	1.50"	17.00"	15.50"	7 GA	25'-0"	10.75"	4.00"	7 GA	13.5°	25'-0"	9.00"	4.00"	7 GA	16.3°	11"	1'-4"	11'-4"	21'-4"	-	1'-4"	11'-4"	21'-4"	-
LA-30/30	-	-	21'-0"	13'-8"	12.50"	12.50"	3 GA	1.50"	17.00"	16.50"	7 GA	30'-0"	11.75"	4.00"	7 GA	11.3°	30'-0"	9.00"	4.00"	7 GA	13.7°	12"	1'-4"	11'-4"	21'-4"	-	1'-4"	11'-4"	21'-4"	-
LA-35/35	-	-	21'-0"	13'-8"	12.50"	12.50"	5/16"	2.00"	17.00"	16.50"	3 GA	35'-0"	11.63"	4.00"	7 GA	9.70°	35'-0"	10.50"	4.00"	7 GA	11.8°	12"	1'-4"	11'-4"	21'-4"	31'-4"	1'-4"	11'-4"	21'-4"	31'-4"
LA-40/40	-	-	21'-0"	13'-8"	12.50"	12.50"	3/8"	2.00"	17.00"	16.50"	5/16"	40'-0"	11.50"	4.50"	3 GA	8.50°	40'-0"	10.50"	4.50"	3 GA	10.4°	11"	1'-4"	11'-4"	21'-4"	31'-4"	1'-4"	11'-4"	21'-4"	31'-4"
LA-45/45	-	-	21'-0"	13'-8"	12.75"	12.75"	3/8"	2.00"	17.00"	16.50"	5/16"	45'-0"	11.75"	4.00"	3 GA	7.60°	45'-0"	11.50"	4.00"	3 GA	9.3°	12"	1'-4"	11'-4"	21'-4"	31'-4"	1'-4"	11'-4"	21'-4"	31'-4"

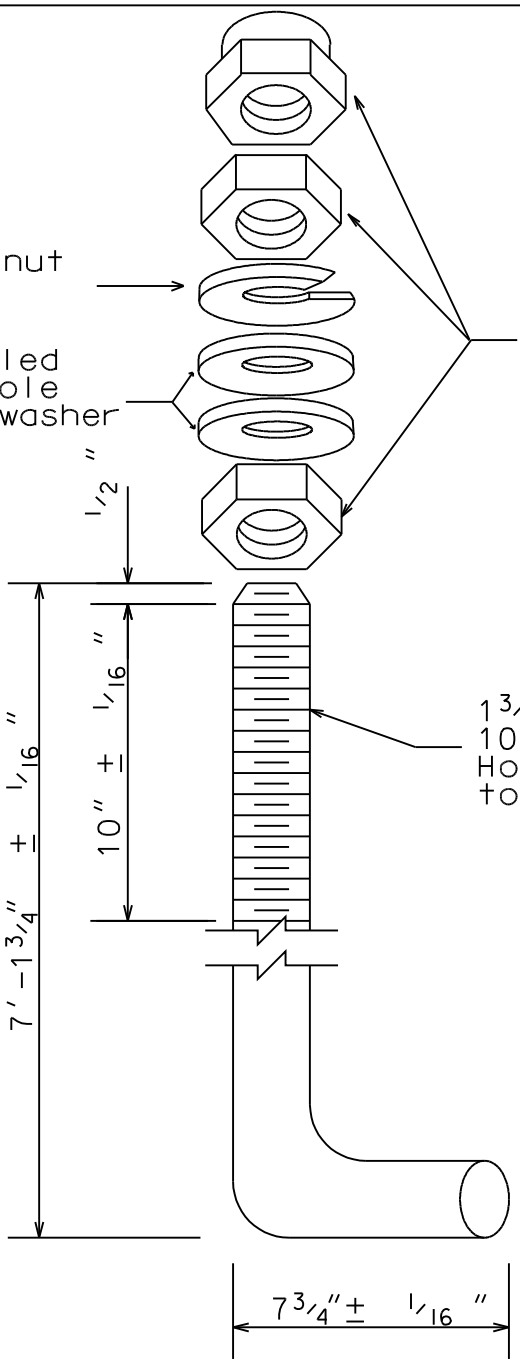
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
TRAFFIC CONTROL STANDARD NO. 8
DUAL MAST ARM FIGURE 1A
REVISED 04/19/05



NOTES:

1. Material shall be Hot Dipped Galvanized. steel
2. Dimensions and material shall conform to 1981 ANSI/ASME "B18:2.1 HEAVY HEX BOLTS" and be of A193-B7 Grade steel.
3. SEE TCS #8 written specifications for more information.

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
TRAFFIC CONTROL STANDARD NO. 8
POLE SHAFT BASE ANCHOR BOLT DETAILS FIGURE 2
REVISED 04/19/05 DRAWN BY: MAA



NOTES:

1. Material shall be Hot Dipped Galvanized, steel
2. Dimensions and material shall conform to ANSI/ASME standards be of A193-B7 Grade steel.
3. SEE TCS #8 written specifications for more information.

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
TRAFFIC CONTROL STANDARD NO. 8
TRANSFORMER BASE ANCHOR BOLT DETAILS FIGURE 3
REVISED 04/19/05 DRAWN BY: MAA